

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claims 1-27 (canceled).

28. (New) A sensor element for detecting a gas component in a measuring gas, comprising:

    a solid electrolyte;

    a conductor track applied to the solid electrolyte, wherein the conductor track includes an electrode situated in a measuring area of the sensor element and an electrode lead connected to the electrode and situated in a lead area of the sensor element, and wherein the conductor track has a narrowing in a transition area between the measuring area and the lead area; and

    a heater element for heating the measuring area of the sensor element.

29. (New) The sensor element as recited in Claim 28, wherein the conductor track has a smaller cross-sectional area in the area of the narrowing than in a first area of the conductor track adjacent to the narrowing.

30. (New) The sensor element as recited in Claim 29, wherein the narrowing reduces a heat conduction along the conductor track from the measuring area to the lead area.

31. (New) The sensor element as recited in Claim 29, wherein the cross-sectional area of the conductor track in the area of the narrowing is at most 70 percent of the cross-sectional

area of the first area of the conductor track adjacent to the narrowing, and wherein each cross-sectional area is defined in a plane perpendicular to a heat gradient occurring when the measuring area of the conductor track is heated.

32. (New) The sensor element as recited in Claim 29, wherein in the area of the narrowing, the ratio  $A/b \leq 0.1$  mm, A being the cross-sectional area of the conductor track in a first plane perpendicular to the longitudinal axis of the sensor element, and b being the width of the conductor track in the first plane.

33. (New) The sensor element as recited in Claim 29, wherein the narrowing of the conductor track includes at least one recess.

34. (New) The sensor element as recited in Claim 33, wherein the recess is slot-shaped and has a longer side and a shorter side, the longer side of the recess being at least one of: a) approximately perpendicular to a longitudinal extension of the conductor track; and b) approximately perpendicular to a heat gradient formed in the conductor track by the heating of the measuring area.

35. (New) The sensor element as recited in Claim 33, wherein the narrowing of the conductor track has a plurality of recesses, and the conductor track has a net-like structure in the area of the recesses.

36. (New) The sensor element as recited in Claim 35, wherein the recesses are offset relative to one another along the longitudinal axis of the conductor track.

37. (New) The sensor element as recited in Claim 35, wherein in the area of the narrowing, the ratio  $b/c \leq 0.8$ , b being

the width of the conductor track in a direction perpendicular to a longitudinal extension of the conductor track, and c being the sum of the widths of individual conductor track sections separated by the recesses.

38. (New) The sensor element as recited in Claim 29, wherein the narrowing is configured as a constriction, the width of the conductor track in the area of the constriction being smaller than the widths of areas adjacent to the constriction.

39. (New) The sensor element as recited in Claim 38, wherein the width of the conductor track in the area of the constriction is at most 70 percent of the widths of the areas adjacent to the constriction.

40. (New) The sensor element as recited in Claim 29, wherein the solid electrolyte includes a first solid electrolyte sheet and a second solid electrolyte sheet, and wherein the conductor track is situated in a layer plane between the first solid electrolyte sheet and the second solid electrolyte sheet.

41. (New) The sensor element as recited in Claim 29, wherein the height of the conductor track in a direction perpendicular to a major surface of the sensor element is in the range of 4  $\mu\text{m}$  to 20  $\mu\text{m}$ .

42. (New) The sensor element as recited in Claim 29, further comprising:

a first electrochemical cell including a first electrode, a second electrode, and a solid electrolyte sheet situated between the first electrode and the second electrode, wherein the first electrode is applied to an

external surface of the sensor element, and the second electrode is provided in a measuring gas space situated within the sensor element and connected to the measuring gas located outside the sensor element via a gas inlet opening and a diffusion barrier; and

a second electrochemical cell including: a) at least one of the second electrode and a third electrode; and b) a fourth electrode, wherein the at least one of the second electrode and the third electrode is electrically connected via a solid electrolyte, and wherein the third electrode is situated within the measuring gas space and the fourth electrode is exposed to a reference gas, and wherein the narrowing of the conductor track encompasses: a) the at least one of the second electrode and the third electrode; and b) the third lead.

43. (New) The sensor element as recited in Claim 42, wherein the narrowing of the conductor track is situated between the fourth electrode and the heater element, and wherein the fourth electrode is at least one of electrically insulated and electrically shielded from the heater element by the area of the conductor track that includes the narrowing.

44. (New) The sensor element as recited in Claim 43, wherein the narrowing is configured as at least one recess.

45. (New) The sensor element as recited in Claim 42, wherein the conductor track includes a strip in the area of the narrowing, and wherein the strip extends along a projection of the contour of the fourth electrode onto the layer plane of the third electrode.

46. (New) The sensor element as recited in Claim 45, wherein the width of the strip is at least 0.5 mm.

47. (New) The sensor element as recited in Claim 29, wherein the conductor track includes a gas diffusion-inhibiting section which substantially prevents a gas exchange between the electrode of the conductor track and the lead of the conductor track.

48. (New) The sensor element as recited in Claim 47, wherein a proportion of pores in the diffusion-inhibiting section of the conductor track is smaller than a proportion of pores in the electrode of the conductor track.

49. (New) The sensor element as recited in Claim 48, wherein the proportion of pores in the diffusion-inhibiting section is in the range of 1 to 10 percent by volume, and wherein the proportion of pores in the electrode of the conductor track is in the range of 10 to 50 percent by volume.

50. (New) The sensor element as recited in Claim 47, wherein the conductor track includes a metallic portion and a ceramic portion, and wherein the ceramic portion of the diffusion-inhibiting section of the conductor track is smaller than the ceramic portion of the electrode of the conductor track, and wherein the ceramic portion of the diffusion-inhibiting section is in the range of 10 to 40 percent by volume, and the ceramic portion of the electrode of the conductor track is in the range of 15 to 50 percent by volume.

51. (New) The sensor element as recited in Claim 47, wherein the electrode of the conductor track has an open porosity, and wherein the diffusion-inhibiting section has a closed porosity.

52. (New) The sensor element as recited in Claim 42, wherein the electrode of the conductor track includes a first electrode section and a second electrode section, the first electrode section being connected to the electrode lead in a transition area between the measuring area and the lead area, and wherein the first and second electrode sections are electrically connected to one another only on their sides facing away from the lead area.

53. (New) The sensor element as recited in Claim 52, wherein the second electrode section has an annular shape, and a side of the second electrode section facing the lead area has a recess in which the first electrode section is situated.

54. (New) The sensor element as recited in Claim 52, wherein the electrode of the conductor track is the first electrode of the first electrochemical cell.